

Environmental Impact Assessment and Protection of Underwater Cultural Heritage in the Port of Taipei ,as Well as Prospects for Cooperation between the Two Sides of the Taiwan Strait

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Abstract: Man has a long history of navigation and fishing and has left countless sites containing underwater cultural heritage (UCH). These cultural remains are closely related to the cultural characteristics of a society and/or a region as well as to the cultural advanced wisdom and thus should be protected. In particular, the *UNESCO Convention of the Protection of the Underwater Cultural Heritage* came into effect on 2 January 2009. UCH deserves priority, and long-term effective mechanisms need to be established for its protection. Taiwan promulgated the *Environmental Impact Assessment (EIA) Act* on 30 December 1994. Although with the practical experience for more than 15 years, the exploration, survey, and assessment of cultural heritage are still limited. This is particularly true when considering UCH. Taking the Port of Taipei in Taiwan as a case study, this paper demonstrates and discusses how the Environmental Protection Administration includes the issue of UCH in the EIA process and how it facilitates coordination and integration among related agencies for surveys and protection of UCH in the port area. This case was deemed an important milestone and a model before the enactment of an exclusive UCH law in that a developer was requested to protect UCH through the EIA process. Based on the concept of “common heritage”, this paper also explores the prospects and proposes recommendations for the two sides of the Taiwan Strait for cooperation and collaboration in protecting UCH.

Key Words: Underwater Cultural Heritage (UCH); Environmental Impact Assessment (EIA); Environmental Protection Administration (EPA); Taiwan;

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the Port of Taipei (Taipei Port)

I . Introduction

“Culture” is the common heritage of mankind. There are numerous definitions of it. For instance, culture refers to: (1) excellence of taste in the fine arts and humanities, also known as high culture; (2) integrated patterns of human knowledge, beliefs, and behaviors that depend upon the capacity for symbolic thought and social learning; and (3) the set of shared attitudes, values, goals, and practices that characterizes an institution, organization, or group. In the 20th century, “culture” emerged as a central and unifying concept of American anthropology, where it most commonly referred to the universal human capacity to classify and encode experiences symbolically, and communicate symbolically encoded experiences socially.^① In other words, culture includes different concepts, values, and/or codes of conduct of a people, a community, a society, or a country. From formal aspects, cultural characteristics are closely associated with language, written characters, images, and/or human behaviors. For archaeologists, culture often represents the distinctiveness in remaining artifacts and/or settlements. The same tools, instruments, and manufacturing technologies may illustrate unique cultural characteristics of a people of a specific period of time. Culture also consists of physical and non-physical portions, which include instruments, materials, products, skills, technologies, concepts, ideologies, and institutional mechanisms. Very often, cultural heritage is a superficial symbol that is closely related to local culture.

Chen (2007) echoed the above broad definition. As illustrated in his paper, culture is regarded as the assembly or a portion of this assembly of human life, which includes work and leisure, material and spirit, existing reality and historic memory. He further refers to “marine culture” as the life contents of man and the ocean, which include people’s expectations, memories, and descriptions of the ocean. Therefore, the research themes of marine culture are broad in this context and can be categorized into seven subfields: (1) fishing grounds and fishing; (2) ships and shipping; (3) maritime trade and immigration; (4) coastal management and governance; (5) piracy and illegal smuggling; (6) marine environment and ecosystems; and (7) maritime humanity and art activities. Since marine cul-

① Wikipedia, Culture, at <http://en.wikipedia.org/wiki/Culture>, 25 August 2010.

ture represents the interaction as a whole between man and the ocean, its scope and contents are therefore extremely abundant and diverse.^①

Due to frequent environmental changes, historical events, and/or devastating incidents, a significant portion of cultural remains are covered or submerged in the marine environment. As acknowledged in the UNESCO *Convention on the Protection of the Underwater Cultural Heritage*, underwater cultural heritage (UCH) is recognized as an integral part of the cultural heritage of humanity and a particularly important element in the history of peoples and nations, and their relations with each other concerning their common heritage. UCH is also often described as a “time capsule” strongly linking human wisdom, history, and the natural environment. The above convention thus highlights the importance of protecting and preserving UCH and indicates that the responsibility thereby rests with all states. In addition, the convention states that cooperation among states, international organizations, scientific institutions, professional organizations, archaeologists, divers, other interested parties, and the public at large is essential for protecting UCH. It also urges that improvements be made in the effectiveness of measures at the international, regional, and national levels for the preservation *in situ* or, if necessary for scientific or protective purposes, the careful recovery of UCH.^② Since the Convention went into effect on 2 January 2009, the protection of UCH deserves priority on the national cultural agenda.

II . Cultural Affairs in Taiwan

On November 11, 1981, Taiwan established the Council for Cultural Affairs (CCA) as its highest institution for the planning and oversight of cultural establishments. The CCA thus plays a key role as policy-maker, planner, and implementer in promoting and protecting culture. The CCA has its different policy themes according to the background and interests of its ministers.^③ For example, the policy goals and themes in 2010 include promoting cultural and

① Chen Kuo-tung, The diverse characteristics of oceanic cultural research, *Oceanic Culture Journal*, vol. 3, 2007, pp. 11-18; also available at http://ntouioc.ntou.edu.tw/webfm_send/50, 20 August 2010.

② UNESCO, Convention on the Protection of the Underwater Cultural Heritage, at <http://unesdoc.unesco.org/images/0012/001260/126065e.pdf>, 25 August 2010.

③ Council for Cultural Affairs, Administrative Organization, at <http://www.cca.gov.tw/about.do?method=list&id=2>, 4 September, 2010.

creative industries, revitalizing cultural heritage and tourism culture resources, reviewing existing laws and regulations, and promoting the reorganization and improvement of cultural facilities. Following a governmental reorganization, i. e., the CCA will be incorporated into the brand-new Ministry of Culture in 2012 and this is one of the major tasks for the lead agency of culture in Taiwan for the moment.^①

During the past decade, the CCA was often criticized for paying more attention to the construction of infrastructure and performance programs rather than institutional improvements and fundamental research. Examples are the promotion of the *Construction Plan of the New Taipei Theater*, the *Plan of the Kaohsiung Maritime Culture and Popular Music Center*, and the *Construction Plan of the Wei Wu Ying Center for the Arts* in recent years. The major reason is that many existing museums and art centers have low use rates and are criticized as being “mosquito’s centers”, i. e., no one there but mosquitoes. Based on the CCA’s performance report of 2009, there were limited additional activities related to the protection of cultural heritage. In addition to a celebration program on International Museum Day and a Workshop on Cultural Heritage Preservation, the CCA only organized a Training Program for UCH Scientific Survey and Analysis and a Special Exhibition and the International Workshop on UCH that year.^② It is believed that the lack of a sufficient budget and policy focus on UCH contributed to the inactivity of the agency.

Currently, the *Cultural Heritage Preservation Act* is the only law which focuses on protecting various types of cultural heritage in Taiwan.^③ There is still no exclusive law on UCH protection, and the issue has been neglected for a long time. However, the concept of UCH has gradually been taking root in the existing laws and enforcement regulations. For instance, the CCA amended and promulgated Article 3 of the *Enforcement Rules of the CHPA* on 15 June 2010. The amended enforcement regulations extend the definition of natural remains to cover fossils of ancient wildlife, which were discovered by researchers on the seabed of the Taiwan Strait in recent years and contribute to an integral part of UCH. Article 3 also regulates the “space” of remaining artifacts and hu-

① Council for Cultural Affairs, 2010 Policy Goals and Objectives, at <http://www.cca.gov.tw/ccalimages/adminstration/0/99target.pdf>, 20 June 2010.

② Council for Cultural Affairs, Performance Report of 2009, at <http://www.cca.gov.tw/ccalimages/result/1222766685264/20100308.pdf>, 20 June 2010.

③ Council for Cultural Affairs, Cultural Heritage Preservation Act, at <http://law.moj.gov.tw/Eng/LawClass/LawContent.aspx?PCODE=H0170001>, 5 September 2010.

man settlements including those on land and underwater.^①

Based on Article 11 of the *CHPA*, the CCA created the Headquarters Administration of Cultural Heritage (HACH) in 2006 in charge of affairs related to cultural heritage.^② Since then, the HACH has been actively engaged in UCH affairs. Since 1 September 2006, for instance, the HACH commissioned Academia Sinica and National Sun Yat-sen University to conduct a three-year project entitled the “Project for the Exploration and Excavation of Ancient Shipwrecks in Makung Harbor and for the Training of Research Staff of Underwater Cultural Heritage Preservation and Conservation”. Starting in 2007, the project also carried out underwater archaeological reconnaissance in waters of the Penghu Archipelago.^③ This is the first ever pilot project on researching and investigating UCH in Taiwan, which employs a systematic approach and scientific technology such as multi-beam sonar and magnetometers. In 2008, the two-volume report entitled the *New Vision of an Oceanic Taiwan*, namely *A Special Report on the Achievements of the Taiwan-French Cooperation on Survey of Underwater Cultural Heritage and Professional Training*^④ and *Investigation Report on Potential Historic Shipwrecks in Makung Harbor, Penghu*^⑤, were published. An International Symposium on Underwater Archaeology was also organized at Shihsanhang Museum, Taipei County. After being commissioned by the HACH, Academia Sinica presented its final report entitled *A Historic Research on Underwater Cultural Heritage in the Coastal Wa-*

① Council for Cultural Affairs, the Amended Article 3 of the “Enforcement Rules of the Cultural Heritage Preservation Act”, at <http://www.hach.gov.tw/hach/frontsite/expservice/expServiceDetailAction.do?method=doViewNewsDetail&contentId=4300&isAddHitRate=true&relationPk=4300&tableName=content&iscancel=true&siteId=101>, 20 June 2010.

② Council for Cultural Affairs, Cultural Heritage, at <http://www.cca.gov.tw/business.do?method=list&id=2>, 20 August 2010.

③ Tsang Cheng-hwa and Liu Jin-Yuan, Starting up the Underwater Archaeology in Taiwan: Recent Underwater Archaeological Reconnaissance in the Waters of the Penghu, at http://140.121.175.164/Registration/tosmpart/%E6%91%98%E8%A6%81_%E8%87%A7%E6%8C%AF%E8%8F%AF.doc, 24 August 2010.

④ Headquarters Administration of Cultural Heritage (HACH), Council for Cultural Affairs, *New Vision of an Oceanic Taiwan—A Special Report on the Achievements of the Taiwan-French Cooperation on Survey of Underwater Cultural Heritage and Professional Training*, 2008.

⑤ Headquarters Administration of Cultural Heritage (HACH), Council for Cultural Affairs, *New Vision of an Oceanic Taiwan—A Project for the Exploration and Excavation of ancient shipwrecks in the Makung Harbor and for the Training of Research Staffs of Underwater Cultural Heritage Preservation and Conservation*, 2008.

ters of Taiwan in June 2009. All of these demonstrate the first stage of initiatives of research and on-site surveys of UCH in Taiwan. It is obvious that the manpower, funding, projects, and implementation performance on this topic are still limited, and therefore, more efforts on protecting UCH are needed.

III. EIA in the Port of Taipei

Taiwan promulgated its *Environmental Impact Assessment (EIA) Act* on 30 December 2004. This act was formulated to prevent and mitigate the adverse impacts of development activities on the environment in order to achieve the goal of environmental protection. Pursuant to Section 2 of Article 4, EIA means an environmental management plan based on scientific, objective, and comprehensive surveys, forecasting, analyses, and evaluations conducted prior to project implementation in order to determine the degree and scope of the potential impacts of development activities or government policies on the environment (including the living, natural, and social environments), economy, culture, and ecology, and the public explanation and review of such a plan. The act also stipulates that EIA work includes such procedures as phase I and II EIAs, reviews, and follow-up evaluations. Competent authorities at all levels shall establish an EIA Review Committee and necessary taskforces to review matters related to EIA reports.^① Clearly, the scope of EIAs includes impacts on culture and cultural heritage.

Although the act has been in force for nearly 20 years in Taiwan, the research, investigation, and assessment of development impacts on culture are limited. This is particularly true of the issue of UCH. For instance, there were three major trading hubs in ancient Taiwan, as evidenced from the expression, “Tainan number one, Lukang number two, and Monga number three.”^② It is believed that these harbor areas possess numerous shipwrecks and marine cultural heritage. Tainan City and County are located in southwestern Taiwan, and the city was the capital during the Dutch colonization period of the 17th century. The Dutch built the castle, Zeelandia, in Anping District of Tainan City which is now a famous and popular tourism site. The nearby area was the old

① Environmental Impact Assessment Act, at <http://law.moj.gov.tw/Eng/LawClass/LawAll.aspx?PCode=00090001>, 17 August 2010.

② A Bird's Eye View of Wanhua—The Long History of the Monga Bowl, at <http://61.57.40.108/OCAC/web/News/uptNews.aspx?Item0=2&c0=23&p0=4508>, 17 August 2010.

Taijiang Inner Sea, and a significant portion of the sea experienced several severe mudflows and was claimed for urban development over the past few centuries. Lukang is a historical harbor city in Chunghua County of central Taiwan and was also a historical port. Nevertheless, its coastal area was claimed for the Chunghua Seashore Industrial Park. Moreover, Monga is the old name for the Wanhua District of Taipei City and originates from the indigenous word for canoe. Unfortunately, tideland reclamation and coastal development projects in these areas lacked investigations of UCH. Protecting UCH has therefore been neglected to the present during the EIA process. In this regard, the initiative of UCH investigation in the Harbor of Taipei is an important milestone in Taiwan's EIA review process.

A. Development Progress and EIA Initiatives at Taipei Port

The Port of Taipei is located in the northern part of Taiwan (Figure 1). It lies on the southwestern estuary of the Tamsui River, extending up to the coast of Xi-Ko of Rhei-Su Kun of Linkou Township, and faces west onto the Taiwan Strait with Guan-Yin Mountain as the background. The Port of Keelung lies 34 nautical miles east; the Port of Taichung is 87 nautical miles south, and the Port of Fuchou, China is 134 nautical miles to the west. Therefore, the Port of Taipei is suitable to become a port in northern Taiwan for ocean cruising and cross-strait direct cruises. ^①

The port of Tamsui launched a Program of Construction Phase I in 1993, and it was completed at the end of 1998. In 1995, Taiwan propelled the sub-plan Maritime Center of the program, Asia-Pacific Regional Operations Center (APROC), and agreed to orient the development of the port as a strong backup for Keelung Port. In 2004, the Ministry of Transportation and Communications officially announced and designated Tamsui Port as an auxiliary port of Keelung Port. In 1999, the Executive Yuan (equivalent to the Cabinet) approved and implemented "Overall Planning of Tamsui Port and Programs for Future Development," as well as the First Five-year Program of Construction Phase II (1996–2001), and renamed Tamsui Port Taipei Port. In 2002, the Second Five-year Program (2002–2006) of Construction Phase II for Taipei Port was approved and implemented. After overall discussions and amendments, the Third

① About Port of Taipei, Location, at <http://www.tpport.gov.tw/tpport/EnRedirectForward.do>, 17 August 2010.

Five-year Program (2007 — 2011) of Construction Phase II continued as planned, and is scheduled for completion by 2011. The Program of Construction Phase III (2012—2021) for Taipei Port and the Long-term Development Programs (after the year 2022) will be fully discussed and promoted depending on the needs for future maritime development and the willingness of investments from the private sector.^① Based on the plan, the land area of Taipei Port will be 1,038 ha and the water area will be 2,064 ha, for a total of 3,102 ha.^② Figure 2 shows an aerial view of Taipei Port.

Pursuant to the *EIA Act*, the Keelung Port Harbor Bureau submitted its *EIA Statement of Construction Phase II for Taipei Port* to the EPA, which is the lead agency of overall environmental management and the central competent authority of EIAs in Taiwan, to review the impact of harbor construction. After a thorough review, the EPA approved the plan and promulgated EIA conclusions on 8 March 1997. As requested by the Executive Yuan, the construction plan was to be reviewed and altered every five years. Furthermore, the port authority again sent the amended *EIA Statement of Construction Phase II (2007—2011) for Taipei Port* to the EPA and obtained approval and EIA conclusions for the construction on 11 March 2005.

Since the coastal waters around the port's south outlying breakwaters is a traditional fishing ground of elvers, the reclamation project may possibly block them from migrating to the freshwater estuary for growth. Moreover, the coastal zone of this new harbor has been experiencing significant erosion in the south and sedimentation in the north in the past few decades. Thus, there is increasing concern over the balance between conservation and development with construction of Taipei Port. Additionally, the area of the Tamsui Estuary is recognized as one of the important historical sites in Taiwan. The Shihshanhang^③ and Xiagukeng^④ cultural sites serve as examples indicating the abundance of cultural heritage in the surrounding area. This was reaffirmed in the above EIA

① About Port of Taipei, History of Taipei Port, at <http://www.tpport.gov.tw/tpport/EnRedirectForward.do>, 17 August 2010.

② About Port of Taipei, Overall planning and future development plan, at <http://www.tpport.gov.tw/tpport/EnRedirectForward.do>, 17 August 2010.

③ Wikipedia, Shihshanhang Cultural Remain Site, at <http://zh.wikipedia.org/zh-tw/%E5%8D%81%E4%B8%89%E8%A1%8C%E9%81%BA%E5%9D%80>, 4 September 2010.

④ Encyclopedia of Taiwan, Xiagu-Dapu Cultural Remain Site, at <http://taiwanpedia.culture.tw/web/content?ID=15101>, 4 September 2010.

statement and related reports. During the past several years, the local media published significant reports revealing that Mr. Shin-Fu Chang, a resident of the estuarine area, has found countless precious cultural artifacts on the beach.^① Chang also cited his father's observation, during World War II, that several warships and airplanes of Japan were attacked and are submerged in the coastal waters.^② At present, only phase I of construction of Taipei Port has been completed; phase II is now in progress, and the remaining sea has not been reclaimed yet. Thus, there is still an opportunity to conduct necessary investigations, research, and salvage of UCH. Moreover, the EIA statement for Taipei Port declares that if the cultural authority and/or experts recognize the necessity to conduct on-site investigations, the port authority will initiate the necessary surveys as requested. Recognizing the importance of cultural sites and remains as a UCH investigation was called for by the author of this report, the EPA finally began a milestone initiative integrating the concept of UCH protection into the EIA procedure.

B. A Roundtable Meeting on UCH in Taipei Port

In collaboration with the Port of Taipei Branch Bureau (PTBB), the EPA held a Roundtable Meeting on the EIA and Underwater Archaeology for the Construction of Taipei Port on 5 May 2009. In addition to discussions on protecting the elvers, the meeting also focused on the distribution of cultural heritage sites in the region, adequate technologies for underwater archaeology, and related recommendations for the PTBB and EPA to adopt. The meeting was chaired by the author and reached the following conclusions: (1) there is a necessity to conduct underwater archaeology based on known literature and available information, and the port waters deserve priority; and (2) it is essential to develop a comprehensive plan to guide Taipei Port to achieve the recommended goal of be-

① Experts confirm the existence of prehistoric cultural remain site in Linkou, *China Times*, 18 October 1997; Abundance shown in the cultural remain sites in Linkou and Pali Coast, *United Daily News*, 7 July 2000; Land subsidence and the construction of southern outlying breakwater of Taipei Port may damage the prehistoric cultural remain sites, *Taiwan Times*, 9 August 2001; Sung Wen-hsun confirms the collected cultural remains by Chang Shin-Fu have the same knocking method with that in Chungbing Cultural Site, *Taiwan Times*, 9 August 2001; and Environmentalist A-Fu being an expert of fossil, *China Times*, 20 July 2006.

② Personal interview with Chang Shin-Fu on 7 May 2009.

coming an eco-port and a cultural port. For better protection of UCH, the EPA also requested that the port authority conduct necessary surveys and prepare a report on the cultural heritage in the port area by 20 June 2009.^①

C. EIA Review of Phase II of Construction of Taipei Port

Based on the report submitted by Taipei Port, the EPA held the first task-force meeting to review the *EIA Statement of the Comprehensive Plan of Construction Phase II (North Sedimentation Area, South Outlying Breakwater, Water-Oriented Recreation Area, and East Official Wharf) of Taipei Port*. The then chair, the author of this paper, drew the following conclusions on protecting UCH and requested the PTBB supplement and submit its amended report by 20 November 2009 for further review. (1) Based on the priority of construction, the developer (PTBB) was urged to conduct UCH investigations by stages and areas. (2) The construction area overlaps the known site of Xiagukeng cultural remains, and thus integrated response strategies for better protection of cultural heritage should be developed and submitted to Taipei County Government for further review. (3) Collaboration with the Shihsan-hang Museum of Taipei County was suggested for the planning of the water-based recreation area and preservation and exhibition of any discovered cultural remains. (4) The future reclamation area and development needs of Taipei Port are recommended to make necessary adjustments based on the investigation results of cultural heritage, especially UCH. In addition to that, the meeting cited Section 3 of Article 18 of the *EIA Act* which stipulates that: “When the competent authority discovers that development activity has adversely impacted the environment, it shall order the developer to submit response strategies within a limited time period and to strictly implement these strategies after approval by the competent authority.”^② With the confidence of the existing evidence of cultural heritage and remains discovered in the surrounding areas,

① Environmental Protection Administration, The Roundtable Meeting Record on the Environmental Impact Assessment and Underwater Archaeology for the Construction of Taipei Port on 7 May 2009, EPA Inspection Official Letter No. 0980043333, 19 May 2010.

② Environmental Protection Administration, *The First Task Force Meeting Conclusions on the Environmental Impact Statement on the “EIA Statement of Comprehensive Plan of Construction Phase II (North Sedimentation Area, South Outlying Breakwater, Water-oriented Recreation Area and East Official Wharf) in Taipei Port*, EPA Comprehensive Planning Official Letter No. 0980086103, 23 September 2009.

the EPA has clearly laid a legal basis in advance to force the TPBB to conduct a thorough UCH survey in the port area.

On 30 December 2009, the EPA held the second review meeting on the *EIA Statement of Comprehensive Plan of Construction Phase II (North Sedimentation Area, South Outlying Breakwater, Water-oriented Recreation Area, and East Official Wharf) in Taipei Port*. As for protecting UCH, the meeting concluded that the TPBB should make necessary supplementation and amendments to the above EIA statement for the next review meeting. The directions for TPBB were as described here. (1) There is a close relationship between the Xiagukeng cultural site and nearby coastline changes, because many remains have been found scattered in the coastal waters of the south outlying breakwater.^① To enhance protection of local UCH, the port authority should conduct a UCH survey and prioritize the in-depth investigation of port channels before dredging. (2) The design of the revetment in the water-based recreation area should pay close attention to protecting cultural heritage and therefore its design should combine the functions of landscaping, recreation, and safety. However, the TPBB has no experience, willingness, or budget for UCH affairs. In response, the meeting also made another resolution that “the EPA will invite the CCA, Taipei County Government, and Shihshanhang Museum to attend a coordination meeting to integrate administrative resources as well as for seeking a budget for implementing future UCH affairs.”^②

Following the above resolution, the EPA held a Coordination Meeting on UCH Survey in Taipei Port Area on 11 March 2010. In addition to the present author (chair) and representatives from related agencies, two famous archaeologists of Academia Sinica, Yi-Chang Liu and Kwang-tzuu Chen, also attended. On the related research of Taipei Port, Mr. Liu suggested that: (1) the UCH survey to be conducted should focus on possible shipwrecks after the Sung and Yun Dynasties as well as activities and war remains of the Dutch-colonial and

① Environmental Protection Administration, *The Second Task Force Meeting Conclusions on the EIA Statement of Comprehensive Plan of Construction Phase II (North Sedimentation Area, South Outlying Breakwater, Water-oriented Recreation Area and East Official Wharf) in Taipei Port*, EPA Comprehensive Planning Official Letter No. 0990007010, 19 January 2010.

② Environmental Protection Administration, *The Second Task Force Meeting Conclusions on the EIA Statement of Comprehensive Plan of Construction Phase II (North Sedimentation Area, South Outlying Breakwater, Water-oriented Recreation Area and East Official Wharf) in Taipei Port*, EPA Comprehensive Planning Official Letter No. 0990007010, 19 January 2010.

Ming-Chang periods;(2) on the land and seashore,the survey should pay close attention to pre-historical remains and the formation of these remains with environmental changes;and (3) the mountain area (i. e. ,the rim of Linko Plateau) is a well-known site of fossils, which should be seriously explored for ancient wildlife and human fossils. Mr. Chen also provided his opinion as follows:(1) although this case was derived from the EIA review,the CCA and the Cultural Bureau of Taipei County must share responsibility of protecting cultural heritage with the EPA and actively participate in the survey and preservation of cultural remains;(2) the survey undertaken in the tidal zone and on land areas has neglected ancient remains of vertebrates and thus should include them in future investigations;(3) the original design of the water-based recreation area did not establish a preservation area and the display site of possibly discovered cultural remains and therefore the TPBB should prepare a revised plan to accommodate this need;(4) the UCH survey should be conducted in stages and by area before construction of the port;and (5) the TPBB should invite archaeologists to conduct on-site inspections while dredging the channels so that the cultural heritage will not be damaged by engineers who may have no expertise in cultural heritage. These detailed suggestions can serve as valuable references for protecting cultural heritage,and a few of them were included in previous conclusions of EIA cases in Taiwan. ^①

Among the related agencies,the representatives of the HACH also responded as follows:(1) before elaboration of the EIA review guidelines on UCH, the HACH will provide the Draft *Operational Principles of Conducting Survey on Underwater Cultural Heritage at the Research Stage* and related domestic and international literature for reference;(2) the HACH will provide assistance to TPBB when it needs to conduct UCH surveys;(3) the HACH serves as an example that follows the international principle of “in-situ preservation” and has conducted several stages of UCH surveys in the past several years and therefore urged the TPBB to follow the regulations of the CHPA to investigate and protect UCH during the construction phases;(4) due to differences in preserving cultural remains between land and sea,TPBB should ask HACH for assistance when it finds underwater remains;and (5) there is a necessity to have some flexibility in scheduling during construction to urgently

① Environmental Protection Administration, *The Meeting Conclusions on the Coordination of Cultural Heritage Survey*, EPA Comprehensive Planning Official Letter No. 0990026039, 25 March 2010.

handle the discovery of important cultural heritage and to consider the possibility of in-situ preservation of the heritage site and/or remains.^①

Based on the supplementary report prepared by the TPBB, the task team meeting of the *EIA Statement of the Comprehensive Plan of Construction Phase II (North Sedimentation Area, South Outlying Breakwater, Water-oriented Recreation Area, and East Official Wharf) in Taipei Port* made the final conclusions: (1) Taipei Port and neighboring areas are a sensitive area of cultural heritage and deserve priority for protecting the cultural heritage; (2) the port authority is requested to regularly inform the EPA about the stage and contents of port construction and should conduct the first-stage UCH survey before channel dredging; (3) the UCH survey should follow standard operating procedures recommended by the HACH, and HACH is invited to provide necessary assistance to the TPBB; (4) the development of the water-based recreation area should pay close attention to the Xiagukeng cultural site and make an immediate report to the CCA, Cultural Bureau of Taipei County, and EPA when important remains are found; (5) a “culture-oriented” planning of the water-based recreation area is suggested, and the Urban and Rural Development Bureau and the Tourism Bureau of Taipei County are urged to work together to coordinate the land use patterns to better protect the local cultural heritage; and (6) the TPBB is recommended to plan its annual budget to accommodate the need to conduct a UCH survey for the entire area and to achieve the goals of an eco-port and cultural port.^②

D. Follow-up of the Taipei Port Experience

With wide coverage by the media of the 2007 salvage of the ancient merchant ship, *Nanhai* (South China Sea) No. 1, in Yangjiang, Guangdong, China and the continuing appeal for protection of UCH by local elites, there is rising

① Environmental Protection Administration, *The Meeting Conclusions on the Coordination of Cultural Heritage Survey*, EPA Comprehensive Planning Official Letter No. 0990026039, 25 March 2010.

② Environmental Protection Administration, *The Second Task Force Meeting Conclusions on the EIA Statement of Comprehensive Plan of Construction Phase II (North Sedimentation Area, South Outlying Breakwater, Water-oriented Recreation Area and East Official Wharf) in Taipei Port*, EPA Comprehensive Planning Official Letter No. 0990007010, 19 January 2010.

awareness about the importance of protecting UCH recently in Taiwan.^① With no doubt, the above meeting conclusions of *EIA Statement of Comprehensive Plan of Construction Phase II (North Sedimentation Area, South Outlying Breakwater, Water-oriented Recreation Area, and East Official Wharf)* in Taipei Port were later accepted by the EIA Committee of the EPA. Obviously, the case of Taipei Port EIA highlights several points that: (1) UCH affairs are complicated, there is ambiguous jurisdiction among related agencies, and, therefore, every effort must be made to coordinate and integrate related agencies; (2) the related agencies still lack an understanding and knowledge of the importance of UCH and thus their concepts and awareness of protecting UCH need to be raised; (3) Taiwan still lacks scientific and systematic approaches for UCH and definitely needs to place greater emphasis on training, education, and technologies to protect UCH; and (4) very often the developer has no willingness or budget to conduct UCH research and surveys and therefore a long-term effective legal mechanism for better protecting UCH is essential.

After more than a year of trying to persuade the TPBB to conduct a UCH survey, the “spread effect” of the EIA in Taipei Port which integrated UCH protection emerged. For instance, another taskforce chaired by Yi-Chang Liu that was reviewing the *EIA Statement of the Reclamation at the Inner Wharf of the South Outlying Breakwater in Taipei Port* on 16 March 2010 echoed the same concepts and concluded that “the developer should be pursuant to the regulations of CHPA and conduct a UCH survey before construction.”^② In early 2010, when the EPA discussed the scoping of the *EIA Report of Kuokuang Petrochemical Industrial Complex*, the developer was also requested to conduct UCH research and a survey because the industrial area as planned was located in a sensitive site of cultural heritage in Chunghua County. It is believed that similar requirements will be followed in future EIA cases if a site is located in a coastal zone and/or in the marine environment.

According to updated information on recent progress of the UCH survey in Taipei Port, the Keelung Harbor Bureau indicated that: (1) a pilot UCH survey was conducted at the Xiagukeng cultural site within the water-based rec-

① Exploration of the Nanhai No. 1, at <http://www.china.org.cn/english/culture/222723.htm>, 5 September 2010.

② Environmental Protection Administration, *The Second Task Team Meeting Conclusions on the EIA Statement of the Reclamation at the Inner Wharf of South Outlying Breakwater in Taipei Port*, EPA Comprehensive Planning Official Letter No. 0990026311, 26 March 2010.

reation area and its results were sent to the Cultural Bureau of Taipei County for discussion on 10 June 2010; and (2) the TPBB commissioned the Chinese Association of Underwater Cultural Heritage to initiate the first-ever UCH survey project in the port area, and those related affairs were sent to the CCA for review. Although with no exclusive law on protecting UCH in Taiwan, the Taipei Port experience demonstrates a practical approach that the goal of UCH protection can be achieved through an elaboration of the EIA procedures.

IV. Establishing a Better Mechanism to Protect UCH in Taiwan

China promulgated its *PRC Underwater Cultural Heritage Protection Act* on 20 October 1989.^① The law provides definition, ownership, and related management measures of UCH. Comparatively, the protection of UCH in Taiwan is still in an early stage and lacks an exclusive law on the issue. For now, the basic legislative foundation rests on the *CHPA*. However, this law focuses more on protecting historical sites, buildings, settlements, landscapes, and other heritage of terrestrial areas rather than those in marine environments. UCH has been neglected for a long time. Due to the special characteristics of UCH issues and the complexity of the marine environment, it is essential to enact a new law to better protect UCH in the surrounding waters of Taiwan.

Based on updated information, the CCA of Taiwan is strengthening its legislative system to protect UCH. For instance, the *Implementation Regulations of CHPA* was amended in June 2010 and broadens its coverage to historical sites and settlements under water. Ancient wildlife fossils that are often found in the seabed of the Taiwan Strait are also included as a target for protection. During the past five years, the authority has commissioned projects with academic institutions to draw up a draft bill of *Underwater Cultural Heritage Preservation Act (UCHPA)*, organize training program on cultural heritage protection,^② and conduct research and investigation of ancient wrecks in the

① Underwater Cultural Heritage Protection Act of Peoples' Republic of China, at http://www.gov.cn/banshi/2005-08/21/content_25089.htm, 19 June 2010.

② Council for Cultural Affairs, The 2010 Workshop on Cultural Heritage Laws, Regulations and Practices, at <http://163.21.191.2/academic/upload/%E6%95%99%E5%AD%B8%E7%B5%84%E9%95%B7/2010%E5%B9%B4%E6%96%87%E5%8C%96%E8%B3%87%E7%94%A2%E6%B3%95%E4%BB%A4%E8%88%87%E5%AF%A6%E5%8B%99%E7%A0%94%E7%BF%92%E6%9C%83%E5%A0%B1%E5%90%8D%E7%B0%A1%E7%AB%A0.doc>, 22 August 2010.

Penghu (Pescadores) area of the Taiwan Strait. To better protect UCH before the passage of an exclusive law, the CCA is furthermore preparing guidelines for value assessment and exploration of UCH. Nevertheless, several years may pass before the above legislative processes take effect.

Recently, the CCA called for comments from related agencies on its new bill, the *UCHPA*. As requested, the EPA suggested that Article 12 regulates: "Projects related to tideland reclamation, harbor development and dredging, which are subjected to the targets of *Environmental Impact Assessment Act*, should include the assessment of underwater cultural heritage." When the law is put into effect, clearly, this article will strongly integrate related mechanisms between EIA and protection of UCH. Namely, the future *UCHPA* and the existing *EIA Act* will substantially connect each other for better protection of UCH.

With the integration of the EIA and protection of UCH, the case of Taipei Port is a milestone in Taiwan. Following this precedence as well as the recent trends of legislation for protecting UCH, it is believed that future major projects in Taiwan will have to conduct research, surveys, and protection of UCH before they will be approved. Even though the exclusive law on protecting UCH has not passed by the Legislative Yuan (Congress), it can be expected the developers will have no room to avoid the responsibility to investigate and protect UCH in the future.

V. Prospects for Cooperation on Protection of UCH between the Two Sides of the Taiwan Strait

The two sides of the Taiwan Strait share a profound and common cultural heritage. The protection of cultural heritage, therefore, deserves priority on their policy agenda. With the recent significant progress in cross-strait relationships between China and Taiwan, there are numerous practical affairs on which both sides can cooperate and collaborate together in the near future.^① As for the protecting UCH, the following strategies are recommended for both sides to seek to forge stronger and closer ties on protecting UCH.

① Chiau, Wen-Yan, The Issues of Protecting Marine Cultural Heritage in Taiwan and the Prospects for Cooperation of Both Sides of Taiwan Strait, *Cross-Strait Conference Proceeding on Marine Culture*, 2010, pp. 169-175.

Concepts and Education

1. Protecting UCH based on a rooted concept of a “common heritage”. As acknowledged in the *UNESCO Convention on the Protection of Underwater Cultural Heritage*, UCH is an integral part of the cultural heritage of humanity and a particularly important element in the history of peoples, nations, and their relations with each other concerning their common heritage. Having realized the importance of protecting and preserving UCH, the responsibility therefore rests with all states. Moreover, the convention believes that cooperation among states, international organizations, scientific institutions, professional organizations, archaeologists, divers, other interested parties, and the public at large is essential to protect UCH. With the abundance of UCH in the Taiwan Strait and South China Sea, the two sides of the Taiwan Strait should pay closer attention to this issue and have every reason to work hand-in-hand to protect this heritage of all Chinese people.

2. Promoting marine cultural education. Marine culture includes the awareness, attitudes, values, and lives of people that are related to the ocean. From a long-term viewpoint, promoting marine cultural education is believed to be the most fundamental measure to raise public awareness of the ocean as well as protecting UCH. Thus, both sides of the Taiwan Strait are urged to work out adequate curriculum and/or teaching materials; publish classics, journals, and popular magazines related to marine culture; and regularly organize cross-strait conferences, and scholar and student exchanges. The purposes of these are to provide our people necessary knowledge and concepts on marine culture and to encourage them to actively participate in protecting UCH.

Institutional Mechanisms

3. Drawing up a *Cross-Strait White Paper on Cooperation and Protection of Marine Cultural Heritage*. Through negotiation, academic institutions of both sides including universities, societies, and associations are encouraged to develop a white paper on protecting marine culture. This can be elaborated into short-term, mid-term, and long-term action programs and can serve as policy guidelines for future cooperation and protection of cultural heritage including UCH.

4. Improving laws and regulations on protecting UCH. With promulgation of the exclusive *PRC Underwater Cultural Heritage Protection Act*, China has made better progress on UCH protection mechanisms than Taiwan. The exclusive law on protecting UCH of Taiwan is still in the draft stage. However, Taiwan has more than 20 years experience with EIAs and can share its experience

with China. Through learning from each other, both sides of Taiwan Strait can establish comprehensive and competent institutions for protecting UCH.

Practical Actions

5. Conducting cooperative projects of underwater archaeology in the South China Sea. Much literature indicates the abundance of UCH in the Taiwan Strait and South China Sea. These waters are also recognized as one of the potential regions of UCH in the world. For many years, China has initiated several projects of underwater archaeology and obtained significant achievements.^① For instance, the exploration of ancient submerged ships *South China Sea No. 1* in Guangdong waters and *Huaguang Reef No. 1* in the Xisha (Paracel) Islands serve as examples.^② On the other hand, Taiwan is still at an early stage of underwater archaeology, and it would be beneficial to learn more about the legislation, technology, and fundamental research from China. Because China and Taiwan share the same cultural heritage and neighboring seas, it is necessary for marine cultural academia of both sides to work together to conduct underwater archaeology. Based on the protection of a common heritage, both sides of the Taiwan Strait are particularly encouraged to cooperate on UCH research, exploration, and protection in the South China Sea to mitigate the political complexities in the region and to win support from the international community.

6. Cooperating on restoration technology of Chinese junks. Marine technology and culture are closely related to ancient junks. Recently, the research, initiation, and actions on preserving ancient China junks have been the focus of public attention. The old junk *Keelung* (the name was later changed to *Free China*) sailed from Taiwan to San Francisco, CA, U. S. A. in 1955,^③ a model ancient junk, *Tai-Ping Princess*, was struck and submerged in Taiwan waters in 2009^④, and the launching of another model Ming Dynasty junk in Tainan in

① For example, see The underwater archaeology of Nanau No. 1 initiated, at http://big5.xinhuanet.com/gate/big5/news.xinhuanet.com/2010-04/09/c_1225355.htm, 19 June 2010; also see *Underwater Archaeology in China*, at http://big5.xinhuanet.com/gate/big5/news.xinhuanet.com/politics/2010-05/28/c_12150953.htm, 19 June 2010.

② Huaguang Reef No. 1, at http://www.hq.xinhuanet.com/news/2009-01/12/content_15428889.htm, 4 May 2010.

③ Tsang Su-Ming, Saving “Free China” and Saving Cultural Heritage, *United Daily News*, 4 April 2009, also at <http://tw.myblog.yahoo.com/issp-maritime/article?mid=1270&prev=1273&next=-1>, 4 May 2010.

④ Taiping Princess Struck and Submerged, Apple Daily News, 28 April 2009, at http://tw.nextmedia.com/applenews/article/art_id/31582312/IssueID/20090428, 4 May 2009.

2010 are good examples.^① Due to the coherence of historical background, the research and practices of restoring ancient junks will be invaluable to promoting maritime science, technology, and culture since the Ming Dynasty of China.

7. Facilitating exchange programs on marine culture. A regular cross-strait conference on marine culture is essential for both sides to share experiences on protecting marine cultural heritage. Digitalizing and sharing of rare literature can play an important role in fundamental studies of marine culture. It is also recommended to consider the possibility of establishing a Foundation on Research and Development of Marine Culture or to provide scholarships to encourage youth and experts to participate in related research and protection affairs of cultural heritage.

8. Strengthening training and cooperation of underwater archaeologists. The education and training of certified and experienced underwater archaeologists take a long time. Therefore, it is necessary to establish adequate mechanisms of training, practices, and collaboration of underwater archaeologists. Both sides can develop several pilot studies to share their human resources and conduct research, exploration, salvage, and protection of UCH. Inventories and networking of underwater archaeologists need to be conducted on both sides of the Taiwan Strait.

Following the above strategies and a dialogue consensus, it is believed that both sides of the Taiwan Strait can make more contributions and obtain significant achievements on UCG protection.

VI. Conclusions

Marine culture includes broad contents. Thus, marine culture heritage consists of literature, historic sites, traditional ceremonies, scientific technologies, and lifestyles. Among them, UCH is an integral part of the marine cultural heritage and is closely linked to history, geography, humanities, science, and technology. In this regard, seriously protecting UCH is meaningful for both sides of the Taiwan Strait. Particularly, both sides share the same seas, history, and human assets. With recent significant progress in relationships and trust between the two sides, China and Taiwan are encouraged to facilitate exchanges and cooperation on EIAs and the protection of UCH. Sharing their invaluable marine

① Mining Dynasty junk launched in Tainan, at <http://www.cdnews.com.tw>, 4 May 2010.

